

A method for automatically designing cellular mobile radio telephone networks, wherein, from existing planning data of implemented, planned or abstract cellular mobile radio telephone networks or subnetworks and the space-related data of their planning areas and the space-related data of a new planning area, a design of the cellular mobile radio telephone network or subnetwork for the new planning area is automatically generated by processing the relations between the space-related reference and planning data and application of coordinate and angle transformations to the site coordinates of the base stations and main beam directions of the antennas of the base stations of the reference data.

- 2. The method as claimed in claim 1, wherein the quality of the network design is assessed by quantifying the relations between space-related reference and planning data.
- 3. The method as claimed in claim 1 or 2, wherein the space-related planning are acquired, stored, tested and processed in the known manner.



- 4. The method as claimed in one of claims 1 to 3, wherein the space-related planning data are represented as one-or multi-dimensional features and/or parameters and are kept stored in a database.
- 5. The method as claimed in one of claims 1 to 4, wherein the space-related and network-related reference data are kept stored in a database and are represented as one- or multi-dimensional features and/or parameters.
- The method as claimed in one of claims 1 to 5, wherein, 6. without necessary human intervention, for a mobile radio telephone network dr subnetwork (N1) to be planned on a geographic area (1) \a real or abstract mobile radio telephone network or\subnetwork (N2) on a real or abstract geographic atea (6) is changed in the spacerelated parameters, site coordinates and antenna main beam directions and on the geographic area (1) is substituted in the subnetwork (N1) to be planned by coordinate transformation \of the geographic longitude, latitude and rotation with respect to the zero meridian at the precise instant when the features of the spacerelated data of the geographia areas (1) and (6) are equal or are said to be equal i n accordance with a particular criterion.



Key to figures

Fig. 1

1	Reference data
2	Space-related data
3	Network data
2	Space-related data
3	Network data
4	Operations
5	Planning data
6	(Stage 1)
7	Network design
8	(Stage 2)

Fig. 2

1

1

2	Space-related planning data rp of planning area A1
1	Storage medium
3	Space-related reference data $ r_1 \ \text{-} \ r_n $
1	Storage medium
4	Reference network data Nr1 - Nrn
5	Calculating base of the programs
6	Operations

Storage medium

Storage medium



Network design N1 for planning area A1

Fig. 3

1	Space-related	reference	data	r1	to	rn
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- 2 Calculating features Mr1 to Mrn
- 3 Reading space-related planning data rp
- 4 Calculating feature Mp
- 5 Calculating Mri with shortest distance to Mp
- 6 Reading reference network Nri
- 7 Transforming site coordination, Nri > NP
- 8 Transforming main beam directions, Nri > Np
- 9 Outputting Np, outputting quality level